

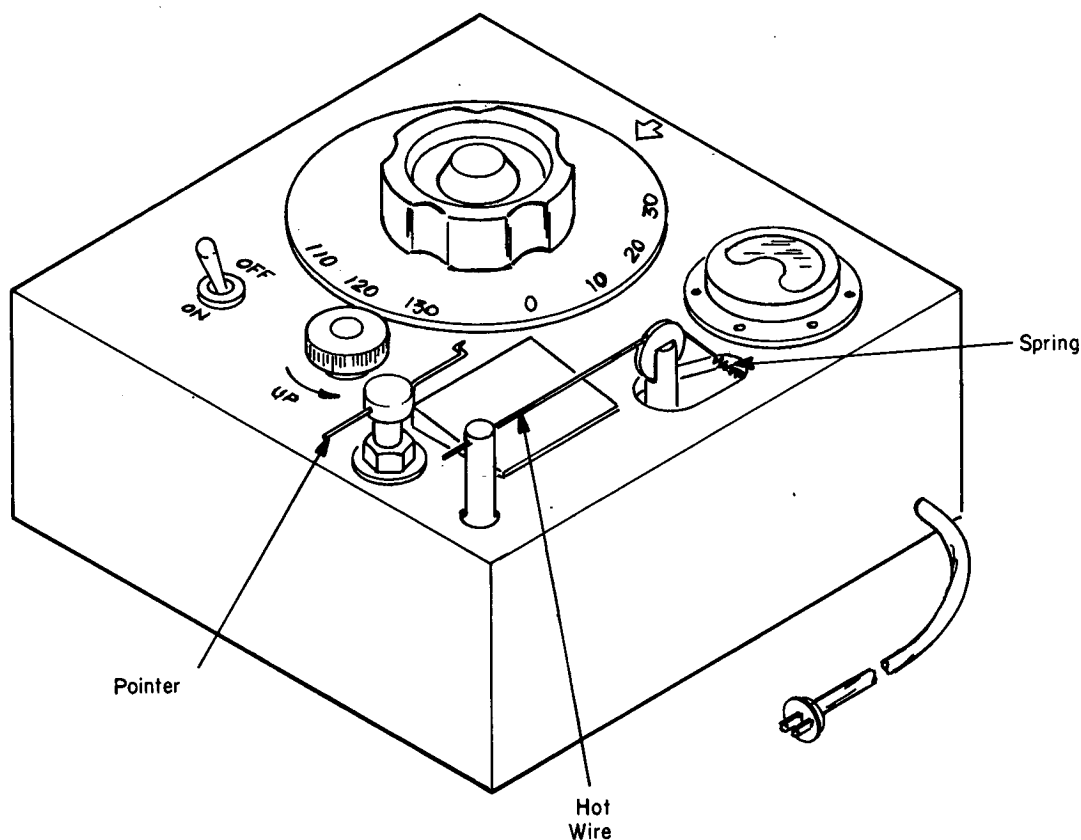
NASA TECH BRIEF

Manned Spacecraft Center



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Glass Tube Splitting Tool



Short sections of glass tubing can be split accurately so that the cuts are aligned 180° apart. A heated wire is incorporated with a positioning mechanism to make the cuts along the major axis of the tube. The re-assembled tube forms a low-pressure, gastight enclosure.

Previously, the tubes were split with a cutting machine, and the exposed edges were then lapped. The

use of this tube splitter reduces the cost of processing and results in improved seal characteristics over that achieved using machined halves.

In operation, the hot wire is adjusted along the center of one side of the tube and the glass is heated for approximately one minute per millimeter of tube wall thickness. The tube is then rotated 180° and the other

(continued overleaf)

side is heated. In some cases, the rapid heating of the glass causes a controlled crack to appear along the tube. In general, however, immediate quenching in cold water is necessary to produce the split. When a quantity of a particular size tubing is being split, the pointer is set to facilitate measurement of 180° of rotation.

In summary, the tube splitting device offers cost savings and improved resealability over current state of the art methods. It should therefore be of interest to those industries employing or considering cylindrical closed glass containers.

Note:

Requests for further information may be directed to:

Technology Utilization Officer
Manned Spacecraft Center, Code JM7
Houston, Texas 77058
Reference: TSP71-10516

Patent status:

No patent action contemplated by NASA.

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